

U.S. Patent Application Serial No. 10/763,258
Amendment filed December 11, 2006
Reply to OA dated September 11, 2006

AMENDMENTS TO THE CLAIMS:

Claims 1 and 3-16 are presented for examination. Claim 2 has been cancelled. Claims 1, 6, and 7 have been amended. New claim 16 defines a further embodiment of the present invention.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): Hexaboride particles comprising particles of a hexaboride of at least one element (X) selected from Y, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Sr and Ca[[,]]; wherein[();]

the surfaces of said hexaboride particles have physically been coated with a surface treatment agent containing silicon, the surface treatment agent being selected from a silazane type treatment agent of silazanes, a treatment agent of chlorosilanes, a chlorosilane type treatment agent, an inorganic treatment agent having at least one alkoxy group in the molecular structure, and an organic treatment agent having at least one alkoxy group at a molecular terminal or in the side chain, or have been coated with the surface treatment agent, the surface treatment agent having chemically combined with hexaboride particles on the surfaces of the hexaboride particles;

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said hexaboride particles are obtained by mixing, with stirring, hexaboride particles having not been coated with the surface treatment agent, the surface treatment agent and a solvent, subjecting the resultant mixture to dispersion treatment to obtain a fluid dispersion, and removing the solvent from the fluid dispersion by evaporation, followed by heating and drying at a temperature of 600°C or less in the air or at a temperature of 1,000°C or less in an inert-gas atmosphere and thereafter pulverization.

Claim 2 (Cancelled):

Claim 3 (Original): The hexaboride particles according to claim 1, wherein said hexaboride is lanthanum hexaboride.

Claim 4 (Original): The hexaboride particles according to claim 1, wherein said hexaboride particles have particle diameters of from 10 nm to 10 μm .

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Claim 5 (Original): The hexaboride particles according to claim 1, wherein said surface treatment agent is in a proportion of from 0.01 part by weight to 100 parts by weight based on 1 part by weight of the hexaboride particles in terms of the silicon contained in the surface treatment agent.

Claim 6 (Currently Amended): An article making use of hexaboride particles which comprises a substrate and layered directly on the surface thereof the hexaboride particles according to any one of claims 1, 3, 4, and 5, ~~claims 1 to 5~~, to compose an article having a coating film of the hexaboride particles.

Claim 7 (Currently Amended): A dispersion of hexaboride particles which comprises the hexaboride particles according to any one of claims 1, 3, 4, and 5 ~~claims 1 to 5~~ which stand dispersed in a liquid medium or a solid medium.

Claim 8 (Original): The dispersion of hexaboride particles according to claim 7, wherein said liquid medium comprises at least one of an organic solvent and water, or comprises at least one

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of an organic solvent and water in which at least one of a resin and a metal alkoxide has been dissolved or dispersed.

Claim 9 (Original): The dispersion of hexaboride particles according to claim 7, wherein said solid medium comprises resin or glass.

Claim 10 (Original): The dispersion of hexaboride particles according to claim 7, wherein the dispersion in which said hexaboride particles stand dispersed in a solid medium composes a coating film formed on the surface of a substrate.

Claim 11 (Original): The dispersion of hexaboride particles according to claim 7, wherein the dispersion in which said hexaboride particles stand dispersed in a solid medium composes a film of 0.1 or more to a board of 50 mm or less in thickness.

Claim 12 (Original): The dispersion of hexaboride particles according to claim 7, wherein

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the dispersion in which said hexaboride particles stand dispersed in a solid medium has been subjected to pulverization treatment to compose a powder.

Claim 13 (Original): The dispersion of hexaboride particles according to claim 12, wherein the powder obtained by pulverization treatment has particle diameters of from 10 nm to 10 um.

Claim 14 (Previously Presented): An article making use of the dispersion according to claim 10.

Claim 15 (Previously Presented): An article making use of the dispersion according to claim 11.

Claim 16 (New): The hexaboride particles according to claim 1, wherein said hexaboride particles are obtained by mixing, with stirring, hexaboride particles having not been coated with the surface treatment agent, the surface treatment agent and a solvent, subjecting the resultant mixture

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to dispersion treatment to obtain a fluid dispersion, and removing the solvent from the fluid dispersion by evaporation, followed by heating and drying at a temperature of from 400°C or more to 600°C or less in the air and thereafter pulverization.